

Public Works Environmental Sustainability Initiatives Matrix

Sustainability is "meeting the needs of the present without compromising the ability of the future generations to meet their own needs." Gro Harlem Brundtland, Norwegian PM

ACTIVITY	Description	Limitations/Issues	Short-Term (2012)	Mid-Term (2020)	Long-Term (2020+)	Notes
Signal Optimization Program						
Synchronization Intersections	Signals within Davidson County to achieve reduction in travel times.		◆			540 Intersection complete; 160 remaining
Advance Transportation Management Systems	Intelligent Transportation Systems and Adaptive Signal Control.		◆			
Energy Efficient Signals	Replacement of incandescent lamps with LED fixtures at all signals to achieve 80-90% energy savings.		◆			500 Intersections complete; 250 remaining
Pavement Programs						
Rejuvenation Plan	Treatment to paved surfaces < 5 years old which can extend road life to 15 years.		◆			Overall reduction of energy and fossil fuels. Completed 542 miles
Crack Sealing Plan	Sealing of construction joints & longitudinal cracks on roads <10 yrs to extend road life to 15 yrs		◆			Completed 126 miles
Fog Seal Plan	Sealing or waterproofing of roads >10 yrs to extend life and prevent further degrading of service		◆			Completed 135 miles
Warm Mix Plan	Asphalt mix incorporates cooler temperatures		◆			PW study in 2007 on Centennial Blvd to determine Hot and Warm Mix long term quality (results in 3-5 years)
Porous Pavement	Allows stormwater to be collected through pavement.		◆			Study of current application at Howard School Complex
Porous Sidewalks	Allows stormwater to be collected through concrete		◆			Pilot project: Deaderick Street
Recycle Asphalt	Reuse of asphalt millings.		◆			Used on Greenways, alleys, and binder on traditional paving projects

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Bridge Program						
Bridge Maintenance and Repair	Use of erosion control devices, planting of trees, and establishing vegetative cover to stabilize banks thereby preventing sediment from entering streams/creeks		◆			monitored by inspectors
Bridge Rehabilitation/Replacement	Reuse of debris from bridge demolition as bottom layer in bank stabilization, rip-rap, undercutting, and foundation fill material		◆			monitored by inspectors
Bridge Construction	Use of recycled concrete and high performance concrete in bridge replacement projects to increase durability, minimize maintenance, and reduce material.		◆			Incorporated in design, monitored by inspectors
Multi-Modal Transportation						
Sidewalk Plan	Multi-year sidewalk plan/construction.		◆			Update to the Sidewalk Plan completed. 124 miles sidewalks repaired/ installed, over 7200 curb ramps completed. Use of recycled construction material (brick, block, etc.) included as sub-base material.
Bikeway Plan	Multi-year bike route plan/construction.		◆			Update to the Bikeway Plan completed. 94 miles of bike routes completed
Signalized Pedestrian Crossings			◆			Approximately 300 crossings completed
Way Finding & Signage Program	Directions to mass transit, universities, etc.		◆			Under design.

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Streetscape Projects	Planting trees, shrubs, etc. within right-of-ways.	Funding for experienced personnel and maintenance for green spaces in right of way	◆			Projects completed: 12th Aven, Church Street, Gateway Blvd, Capitol Blvd and perimeter of Fisk University. Proposed: Deaderick St.
Streetlights	Safety lights within the right-of-ways.		◆			PW and NES partnering to study "Dark Sky" lamps which include LED's and use less energy.
Pedestrian Lighting	Additional lighting in right of ways for pedestrians.		◆			Projects completed: James Robertson Pkwy., Church St.
Waste Reduction Programs						
Drop-off Recycling	Network of 13 recycling drop-off sites located throughout Nashville and Davidson County.		◆			Public Works added 3 new sites in 2008. Additional sites will be added based on availability of funds.
Curbside Recycling - USD	Monthly Collection in USD		◆			Single-stream residential recycling collection for single family homes and multi-family homes (4 units or less) in the Urban Services District.
Curbside Recycling - GSD	Residents must contract with private recycler	PW staff reviewing RFP's for GSD pilot	◆			Contract currently being negotiated. Updates to be provided in 2009.
In-house Recycling	Goal to provide all City buildings with Recycling	Funding and future LEEDS certified building needs (glass)	◆			
Brush Collection	Regular rotation schedule		◆			
Household Hazardous Waste	Nashville has HHW program for residents. Want to extend to Metro Departments.	Funding	◆			Public Works conducted 3 electronic, battery and CFL recycling events in the spring of 2008 with more planned for the fall.
Pay-As-You-Throw	Residents pay directly for waste collection with recycling collected at no additional cost.	Requires changes to Metro Code		◆		

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School Recycling	Expansion of School Recycling Dumpster Program to include single-stream at 100% of schools		◆			Public Works promotes the MNPS/Allied Waste school recycling program.
Business/Commercial Recycling	Explore best practices and work with business community to determine options for Nashville.		◆			
Construction & Demolition Recycling			◆			
Contracts	PW is working to expand our recycling program through the RFP for Recycling Services and Products. This includes contracts for the recycling of electronics, batteries and TVs.	Funding	◆			Currently accepting RFP's.
Backyard Composting	Promote backyard composting to residents as a more efficient way to reduce food and yard waste.	PW sells compost bins and food digesters to the public at cost. Education is key in getting the word out.	◆			Public Works has sold 344 Earth Machine composters and 18 Green Cone Digesters so far in 2008.
Recycling Tonnage Reporting	Proposed change to State law requiring all recycling companies to provide tonnage information to local governments.	Public Works is required by State law to collect data annually from private recyclers and businesses.		◆		

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Business License for Private Waste Haulers Requiring Recycling Service	Proposed change to Metro Code where private waste haulers in Davidson County would be required to provide recycling collection to all of their trash customers.	Metro Code requires a hauling license renewed annually for each vehicle. This proposed change in Metro Code would eliminate the per vehicle license and institute a business license requiring the additional recycling service to be offered trash customers.		◆		
Fees for Additional Trash Carts	Charge residents for both additional cart and additional waste generated in additional cart/s.	Public Works charges residents a fee for the second cart which includes delivery cost but does not charge for potential additional waste generated at the residence.		◆		
Energy Savings						
Anti-Idling Policy	No idling of PW vehicles in non-emergency situations.		◆			Existing Policy.
Employee 4 Day Work Week	Four 10 hour work days/week.		◆			Existing Policy.
Low Energy Lighting			◆			
Standard Temperature Settings in all Buildings			◆			

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Beautification Projects						
Semi-Annual Litter Cleanups in each councilmanic district	Volunteer efforts to pick up roadside litter in neighborhoods		◆			
Cigarette Litter Prevention Program	Partnership with Businesses and Residents in downtown area to control cigarette litter		◆			
Urban Forest Management	Project with Metro Beautification's Tree Advisory Committee		◆			
Sustainable Right of Way Options						
Complete Street Initiatives			◆			Implement Complete Streets principals by providing multi-modal transportation options such as walking, biking, and mass transit. Public Works conducted presentations on benefits to other Metro Departments.
Flexibility of Design to Adapt to Changing Conditions in the Future			◆			
Reuse of Storm water for Irrigation	Collect stormwater in streetscape features		◆			Pilot project on Deaderick Street.
Digital Sign Inventory with GPS	Sign inventory		◆			Project 90% completed
ADA Access	ADA compliance		◆			Public Works has an ADA coordinator to monitor ADA activities within the right of ways.
Trash and Recycling Receptacles	As needed incorporated in capital projects.		◆			Projects completed: Church Street & 12th Ave.
Benches	As needed incorporated in capital projects.		◆			Projects completed: Church Street
Surveillance Cameras for Increased Security and/or Emergency Response			◆			

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Network existing traffic signal cameras to provide real time intersection monitoring for emergency response			◆			maximize infrastructure via optimizing the traffic signal system
Traffic Calming Initiatives	Traffic Calming Features Including Traffic Circles, Chicanes and Chokers		◆			Maintain residential setting by keeping vehicles on arterials and collector roadways
Reclamation of Demolition Materials			◆			
Promotional Information Regarding Sustainable Elements in the Project			◆			
Minimization of Traffic Interruptions, Including Detours			◆			Underway and monitored by inspectors
Driveways for Access to Affected Businesses			◆			Underway and monitored by inspectors
Erosion & Sedimentation Control			◆			Underway and monitored by inspectors
Maintenance of Utility Services			◆			Underway and monitored by inspectors
Safe Pedestrian Access During Construction			◆			Underway and monitored by inspectors
Minimize Construction "Footprint"			◆			Underway. Provided in plans and monitored by inspectors.
Other Items of Note						
Double sided copies			◆			reduction in paper use
Electronic Correspondence			◆			plans, data, specifications, etc available electronically
GiS Mapping and Database			◆			Utilize GIS database to minimize trips